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SPEOSTRIARIA, NEW GENUS (DIPLOPODA: CHORDEUMIDA: CHORDEUMIDEA: STRIARIIDAE)

By Nell B. Causey
Fayetteville, Arkansas

Samwel Cave, Shasta County, California, is the only known locality of the striariid milliped that is the type of the genus described here. An unusual series of both Pleistocene and Recent specimens of it has been collected by the Cave Research Associates. The original description of *shastae* was based on female and larval specimens, and the species was tentatively included in the genus *Striaria*. The males that have been collected recently show that the species is unusual not only in the large body size, but also in the extent of the sexual dimorphism.

The female holotype and male allotype are in the American Museum of Natural History. Topotypes of both sexes are in the collections of the California Academy of Sciences, San Francisco, and of the author.

I am grateful to the Cave Research Associates for the opportunity of studying the millipeds collected by them in California caves.

Genus **Speostriaria,** new genus

Diagnosis: Distinguished from *Striaria* by the simpler branching of the anterior gonopods and by the greater amount of sexual dimorphism, especially as seen in the collum.

Type species: Striaria shastae Causey, 1958.

Species: One.

Description: Crests equally spaced, low, becoming lower and the sixth one absent from posterior segments. Granules smaller and sparser on posterior segments. Females and larvae of both sexes with the collum (Fig. 2) small but hoodlike, with a bulge behind the anterior margin, and with paranota; second segment with paranota; legs and antennae longer and thinner than in epigean genera. Secondary sexual characters of the male include the following: labral spines, short mandibular spines,

longer antennae and legs, longer collum without the median bulge and paranota, second segment without paranota, lower crests on the anterior segments, posterior subsegments of segments 2 through 5 or 6 longer, and legpairs 1 through 7 and 10 and posterior gonopods as in *Striaria*. Sternum of segment 7 bandlike. Anterior gonopods contiguous along the middle line; each gonopod consists of a short coxa, which bears a lateral coxite, and of a telopodite composed of an anterior branch, a posterior branch, and three flagella.

Speostriaria shastae (Causey)
Figs. 1–5

Striaria shastae Causey, 1958, Proc. Biol. Soc. Washington, 71: 182.

Description of male allotype: Length 25 mm, width 2.2 mm. Labral spines directed ventrad and slightly mesiad, their length about one fifth the width of the ventral margin of the labrum. Eyes composed of brown ocelli in 3 irregular series, 6 on one side and 7 on the other. Antennae slender, their length nearly twice the greatest body width, and the relative lengths of segments 1 through 7 as follows: 5:18:40:24:40:16:5. Head and first three segments as shown in Fig. 1. Segments 2, 3, and 4 each with pleural lobes, those of segments 2 and 3 broader and shorter than those of segment 4. Caudal margins of tergites 4, 5, and 6 rise to a slight peak in the midline; the crests of those segments are oblique.

Coxae of the first legpair enlarged and contiguous, their ventral surfaces covered with long setae. Coxae of the second legpair also enlarged and contiguous; the gonopores, which open from the coxae, with a thin membrane around the margin and an adjacent tuft of long setae; second segments produced into a stout, anteriorly directed lobe with a tuft of long setae at the apex; third segments enlarged distad as in the third legpair. Coxae of third legpair enlarged and contiguous as in species of *Striaria*; the coxae are elongated, narrowed at the apex, curved forward, and the telopodite is attached at about the middle of the lateral surface. Legpairs 4 through 7 have the coxae enlarged, rectangular, and almost contiguous; segments 3 and 4 are broadened and flattened slightly. Legpair 10 has the opening of the coxal gland near the base. The posterior legs are slender and longer, the longest ones about one and one half times the greatest body width, and the relative lengths of segments 1 through 7 as follows: 9:2:17:38:6:6:41. The setae on the legs are sparser and relatively shorter than in species of *Striaria*. Somatic characters not described here are as described for the female.

In situ the anterior gonopods project ventro-caudad and the telopodites of the posterior gonopods are laterad to them. From a lateral view, the three large divisions of the anterior gonopod can be seen: the anterior and posterior branches of the telopodite and, between them, the shorter, soft, lobelike coxite. The heavily chitinized anterior branch ends in three unequal divisions, of which all can be seen from an anterior view (Fig. 3). The posterior branch ends in two large divisions, of which only one can be seen from the posterior view (Fig. 4). From a mesial view (Fig. 5),

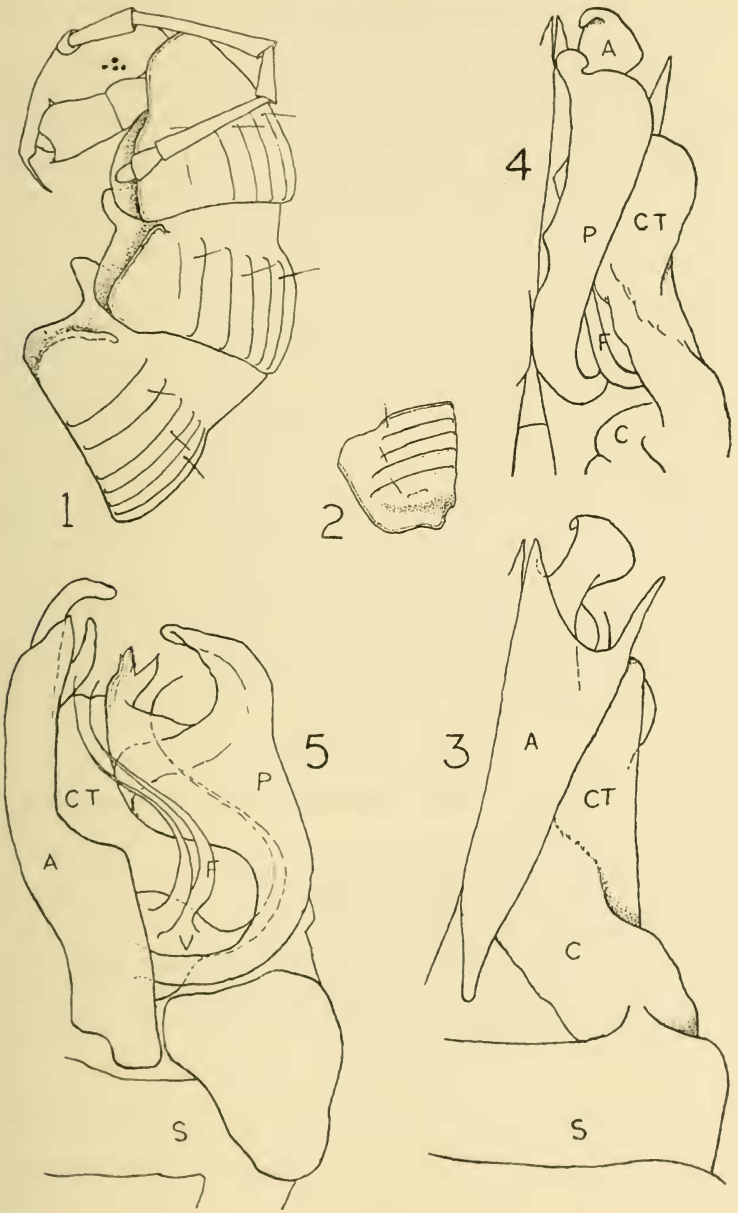

FIG. 1–5

the entire posterior branch and the three flagella, which arise from a vesicle at the base of the telopodite, are visible.

The posterior gonopods are very much as in species of *Striaria*. The sternum and coxae are transparent, flattened, and thin, and the flat but thicker and ventrally setose telopodites are almost perpendicular to them. The joints between the three parts are distinct.

Remarks: Except for the brown ocelli, living specimens are nearly white. The number of ocelli in 15 adult specimens ranges from 8 in 3 series to 4 in 2 series. This is as many ocelli as most epigean striariids have. The segmental setae are longer than in epigean species, but the sensory setae on the legs are not. The elongation of the legs and antennae may have been induced by cave life, for in all epigean species of the family they are relatively shorter and thicker. I have never seen *Striaria eldora* Chamberlin, 1953, which is known only from caves in Eldora and Calaveras counties, California, but probably it is a troglophile. The description refers to its antennae as being of "moderate length, clavately thickened distad"; there is no statement as to the length of the legs. Possibly the large body size of *Speostriaria shastae* is a cave-induced modification. A slight increase in body size is very common among cave forms of the family Conotylidae. *Collections:* Three males, 12 females, and several larvae have now been collected from Samwel Cave, most of them by Richard E. Graham. All collections were made either in June or in January, and mature specimens were taken in each of those months. They occur from the twilight zone to the lowest level of the cave under pieces of broken stone and organic matter. A recently found fossil (No. 1571, Cave Research Associates) was in a Pleistocene stratum with an antilocaprid, *Euceratherium* sp.

Explanation of Figures

Fig. 1.—*Speostriaria shastae,* head and first three segments (without the legs) of the male.

Fig. 2.—Collum of the female, left side.

Fig. 3.—Right anterior gonopod, anterior view.

Fig. 4.—Left anterior gonopod, posterior view.

Fig. 5.—Left anterior gonopod, mesial view.

A, anterior branch of telopodite. C, coxa. CT, coxite. F, flagellum. P, posterior branch of telopodite. S, sternum. V, vesicle.

Figs. 1 and 2 are drawn to the same scale. Figs. 3, 4, and 5 are drawn to a larger, but equal, scale.